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10/581,042

12/19/2006

Wolfgang Ahlers

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12/26/2008

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1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

FERGUSON, CHANTEL L

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

12/26/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|                              |  |                                      |  |
|------------------------------|--|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/581,042           | <b>Applicant(s)</b><br>AHLERS ET AL. |  |
|                              | <b>Examiner</b><br>CHANTEL FERGUSON-<br>GRAHAM | <b>Art Unit</b><br>1797              |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/2/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Summary*

1. This is the initial Office action based on the 10/581042 application filed December 19, 2006.
2. Claims 1-6 are pending and have been fully considered.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-3 and 5-6, are rejected under 35 USC 103 (a) as being obvious over FELDMAN (US PATENT 4211534), and in view of DILWORTH (US PATENT 5882364), and further in view of DOUNIS (US PATENT 6254650).

Regarding claims 1, 3, 4, 5, and 6, FELDMAN teaches the ethylene polymers are known in the art as wax crystal modifiers, e.g. pour depressants and cold flow improvers for distillate fuel oils (additives for fuel oils). The unsaturated monomers, copolymerizable with



ethylene (M1), include unsaturated mono and diesters of the general formula 1:

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The monomer, when  $R_1$  and  $R_3$  are hydrogen and  $R_2$  is  $--OOCR_4$ , includes vinyl alcohol esters of  $C_1$  to  $C_{29}$ , more usually  $C_1$  to  $C_{17}$ , monocarboxylic acid, and preferably  $C_2$  to  $C_5$  monocarboxylic acid. Examples of such esters include vinyl acetate (M3). When  $R_2$  is  $--COOR_4$  and  $R_3$  is hydrogen, such esters include isobutyl acrylate (M2) (col 2 ln 49 – col 3 ln 33). The copolymers of vinyl acetate and acrylic esters (isobutyl acrylate) are in about equimolar proportions (col. 6 lines 23-27).

Even though FELDMAN does not exemplify the vinyl acetate, isobutyl acrylate, and ethylene monomers, however it would have been obvious to one of ordinary skill in the art to obtain and prepare said structures based on the disclosed formula (col 2 ln 49 – col 3 ln 33).

FELDMAN does not explicitly disclose the molar proportions of M1 - ethylene, M2 - isobutyl acrylate, and M3 - vinyl acetate; however DILWORTH and DOUNIS do.

DILWORTH teaches that molar content of ethylene is between 50 and 85% (0.50 to .85) (col. 7 lines 54-55).

DOUNIS teaches that the molar proportion of the ethylene-vinyl ester is less than 7.5 molar percent (col. 6 line 62 – col. 7 line 3).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the molar proportions of said compositions of FELDMAN; by incorporating the molar proportions of DILWORTH and DOUNIS.

The motivation would have been to form a combination that is particularly useful in distillate fuel oils for controlling the size of wax crystals that form at low temperatures, and for inhibiting agglomeration of the crystals as taught by FELDMAN (col. 1 lines 20-24).

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 2, modified FELDMAN teaches the unsaturated monomers, copolymerizable with ethylene, include unsaturated mono and diesters of the general formula 1. One of ordinary skill in the art would recognize copolymerizing can be random distribution; without unexpected results (see MPEP 2144).

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANTEL FERGUSON-GRAHAM whose telephone number is (571)270-5563. The examiner can normally be reached on M-Th 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Chantel Ferguson-Graham  
Chemical Examiner  
Art Unit 1797

//Cephia D. Toomer//  
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